

METHOD FOR MANUFACTURING OUTLET NOZZLES FOR ROCKET ENGINES

Abstract

Method and arrangement for manufacturing an outlet nozzle (10) for use in a liquid fuel rocket engine. The nozzle forms a body of revolution having an axis of revolution and a cross section that varies in diameter along said axis. The nozzle has a wall structure comprising a plurality of mutually adjacent cooling channels extending substantially in parallel from the inlet end (12) of the nozzle to its outlet end (13). The method includes providing a plurality of preprocessed profile members, each having a web and flanges in opposite directions from said web. Each profile member is machined to present a longitudinally gradually tapering width. The member is curved to conform with the wall section of the nozzle, and members are joined by welding the flanges to form a bell-shaped nozzle structure with cooling channels (11) formed by adjacent webs and adjacent pairs of flanges.